

CONSUMERS'

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VITAMINS IN FISH OILS

CONSUMERS' *Guide*

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BRIEFS: In 15 schools, Los Angeles' Adult Education Section of the city school system is conducting courses in consumer problems. Six certified teachers are conducting these classes. Posing the question: "Do we buy, or are we sold?", the courses offered propose to teach how to spend with a plan and buy with informed judgment. . . . Consumers' Counsel Division has a card file of more than 300 schools which are doing some type of consumer education work. . . . Canned dog foods sold in Kentucky now must meet State requirements: A minimum of 10 percent protein and 2 percent of fat, and a maximum of 1½ percent of fiber and 74 percent water. (See CONSUMERS' GUIDE, Jan. 17, 1938.) This regulation became effective January 1. . . . Nutrition specialists in Connecticut, queried frequently as to "Why does the doctor specify that the baby be given commercially-canned tomato juice, instead of home-canned tomato juice?" set to work comparing the Vitamin C content of both, found miscellaneous lots of Connecticut home-grown and home-canned tomatoes rated as well in Vitamin C as a good grade of the commercially-canned kind. . . . At least one large manufacturer of ribbons has joined the procession of fabric manufacturers in labeling his product with its fiber content. . . . A history teacher we know put this

question to her fifth grade class: "How will the meat we have for our Thanksgiving feast differ from that the Pilgrims and Indians had for theirs?" One small consumer in her class replied: "Why, ours will have a purple stamp!" For any adult consumers who haven't yet caught up with this small one, we recommend, "Under the Round Purple Stamp" in our February 8, 1937 issue, and then, "Meat Grades at Your Service," October 18, 1937. . . . "Let the Buyer Beware" used to be a comfortable rule of commercial behavior. Now an editorial in a prominent trade journal reverses the rule and says, "Let the Seller Beware," adding, "That the acceptance of higher ethical standards will be required of business in the future is indicated by the recent campaign of the Federal Trade Commission. . . . The Commission is taking the consumers' crusade seriously, and it is to be hoped that business will."

ALARGE proportion of the huge sums spent by apartment houses, hotels, hospitals, and business establishments for pest control is for one insect—the cockroach, according to records in the Bureau of Entomology and Plant Quarantine. Thousands of dollars also are spent each year to fight cockroaches in the home.

Where the cockroach hides is the key to his control, Bureau entomologists report. Cockroaches are nocturnal. They hide in large numbers during the day—in the home usually in the kitchen near the sink, around cabinets, behind radiators, and under baseboards or the trim on doors and windows. If a light is turned on suddenly, at night, when the roaches are feeding, they reveal their hiding places by running for them.

These are the places to treat by dusting with sodium fluoride powder or pyrethrum powder. Before applying the powder, as many openings as possible should be closed with

a crack filler, such as putty, plastic wood, or plaster of paris.

Sodium fluoride powder, the best all-around cockroach remedy, is poisonous to man if taken internally in sufficient amounts and should be kept out of food and away from children and pets. It is blown into the hiding places with a small duster or with a modern electric powder duster, or it can be sprinkled by hand where roaches run most frequently.

Because cockroaches develop slowly and can exist for some time with little or no food, they usually may be found in all stages of growth.

GOVERNMENT graded meats are "at least 50 percent responsible for the success of our meat market," the manager of Consumers' Cooperative Services of Chicago reports. "The market has a reputation all over the city among cooperators, and of all the advantages of the store the reliable quality of the meat is cited most often by customers.

"In addition we have found that this grading service is a very important protection in buying—very frequently a carcass has been selected by us or by the commission house as equal to the government grade Choice and on this understanding ordered to be graded and then sent out, only to be *rejected* by the grader as not up to grade. This indicates that the commission house can fool our butcher occasionally but not the government grader."

Consumer organizations in New York City are pressing on their city council to enact a meat-grading ordinance which would make compulsory the grading of all meat sold in that city. Many retailers, too, are joining in this demand.

If you missed our October 18, 1937, issue in which "Mrs. Blank's butcher gives her some pointers" on meat grades, send for our reprint of this story.

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Vitamins in Fish Oils

Facts for buyers of vitamin values

THIS is the time of year when parents are very much interested in the use of cod-liver oil preparations for their children," a Colorado Extension Service worker writes us. A supervisor of boys' and girls' 4-H clubs, he tells us of difficulties "we are up against in the purchasing of cod-liver oil," and urges that the CONSUMERS' GUIDE give consumers a hand.

Cod-liver oil has been prescribed for children since the time of Hippocrates, Greek physician whose oath to serve humanity still is taken by our

medical school graduates. Hippocrates knew cod-liver oil helped children. But—2300 years ago—he did not know just why. Neither did the editors of British Pharmacopoeia, when in 1771 they listed cod-liver oil for the first time. Nor, surely, did the two enterprising Yankees who in San Francisco in 1865 were marketing "Dr. Fisherman's Lotion for Man and Beast" and "Okhotsk Sea Cod Liver Oil."

That remained to be worked out by twentieth century scientists, who have explained the contribution of

cod-liver oil. It is a food rich in two vitamins, A and D. For the story of the discovery and importance of Vitamin A, readers may consult "Young Consumers," in the CONSUMERS' GUIDE of April 20, 1936; for Vitamin D, "On the Trail of Vitamin Values," in the GUIDE of June 29, 1936.

Trading in vitamins has become big business. Consumption of cod-liver oil alone in this country jumped from 2 million gallons in 1926 to 6 million in 1936. (This includes animal and poultry feeds.) Imports, chiefly from Norway, accounted for over nine-tenths of these 6 million gallons. Wholesale values of vitamin products produced in this country reached a total of some 16 million dollars' worth in 1935.

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Odor and flavor of cod-liver oil, unpleasant to many adults, are pleasant to most children. This oil or another rich source of Vitamin D is on the "must" list for children up to 2 years of age

Drug stores experienced their greatest boom in the vitamin business, it is reported, between 1930 and 1935. Since then, while sales have increased, stores report a slackening in the rate of increase. One trade authority estimates that vitamin products have been running third in drug store sales, topped only by laxatives and cold remedies.

Vitamins we know chiefly by what happens when we don't get enough of them. If children fail to get sufficient Vitamin A they begin to fall off in weight. They may develop forms of eye disease, such as night

blindness and xerophthalmia. In night blindness, the eye is unable to adjust to twilight or semi-darkness. A more severe eye disease, related to it and due to lack of Vitamin A, is xerophthalmia.

Low resistance to infection is another consequence of lack of Vitamin A in the diet. Vitamin A is necessary for the healthy condition of the linings of nose, throat, ears, the intestinal tract and kidneys. It has been loosely called the "anti-infective" vitamin; lack of any of the vitamins leaves the body more susceptible to infections.

Vitamin D is sometimes called the "sunshine vitamin," because exposure to sunshine enables the body to manufacture its own Vitamin D. And it is the "antirachitic vitamin" because children must have enough of it to prevent or to cure rickets. It must be present in the body if healthy bones and teeth are to be built. The minerals, calcium and phosphorus, essential ingredients in bone building, are not enough: To mobilize the phosphorus and deposit the calcium which build bones, the body requires Vitamin D.

Lack of Vitamin D shows itself in rickets. All too many cases of bow-legs, knock-knees, and pigeon-breasts bear testimony to the ravages of what is still the most common disease of children in the temperate zone. Milder cases of rickets can be detected by the X-ray. Rickets may be cured; but if they are allowed to go too far, the bones may show the effects for many years or even throughout life.

Rickets had long been observed to be most common among poor children. The discovery of Vitamin D settled one old scientific quarrel—whether rickets was due to poor diet or to slum housing. The answer was: both. Foods with Vitamin D value come high for the low-income family. Sunshine, the other great source for Vitamin D, comes seldom to slum homes.

Vitamin D is, moreover, one of the nutrients which children are likely not to get enough of, even with otherwise balanced meals. Cod-liver oil, or another rich source of Vitamin D, is on the "must" list for children up to 2 years of age. These are the years of greatest risk of rickets. Most experts say 2 to 3 teaspoonfuls of cod-liver oil a day are ample protection.

For older children, cod-liver oil requirements will vary, depending on the amount of sun they are getting in their homes and at play, and on the

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other foods they are eating. Winter means less sunshine, and sun which is not as effective as summer sun in the ultra-violet rays that form Vitamin D within the child's body. Clothing and ordinary window glass keep out most of the ultra-violet rays. In winter, then, and perhaps all year round, many youngsters—especially those of families on low incomes—will continue to require cod-liver oil.

Both sun baths and cod-liver oil are on the required list from the first month of life (when rickets may begin) to the end of the second year, say the child specialists of the U. S. Children's Bureau. "For the child from 2 to 6 years it is often advisable to continue giving cod-liver oil in winter, especially if he is living in a climate with little sunshine." (Expert advice in readable form on diet, sleep, clothing, play, and other problems of the young child are available in several Children's Bureau publications. "Infant Care" and "The Child from One to Six" can be ordered from the Superintendent of Documents, Washington, D. C. Prices, respectively, 10 and 15 cents. "Food for Children" and "Diets to Fit the Family Income," with discussion of Vitamins D and A, pp. 14, 22, may be had free of charge from the Bureau of Home Economics, Washington, D. C.)

"Vitamin conscious" adults have wondered how much of each vitamin they need, and how to get what they need most economically. We know somewhat more about adult requirements for Vitamin A than for any of the other vitamins. Yet even on Vitamin A, the experts differ.

For adults, ordinarily, a properly selected diet will afford an adequate supply of Vitamin A. "Those who have a limited amount of money to spend for food should be sure to include foods that will supply plenty of Vitamin A," caution the Bureau of Home Economics experts. Un-

fortunately for low income families, "energy foods" naturally get first call on the food budget, and both nutritional knowledge and shopping skill must be combined to get in the "protective" foods.

The body can store important quantities of Vitamin A. Foods which contain a liberal amount of Vitamin A include—in addition to cod-liver oil—milk, butter, and cream; whole milk or "cream" cheeses; eggs; yellow and green vegetables; liver.

Adults short on Vitamin A can get any desired quantity in cod-liver oil or other fish and fish liver oils, or in tablets or capsules. But experts still lack sufficient data on which to determine an adult dose of Vitamin A.

Vitamin D, like Vitamin A, can be stored in the body. Scientists still have no tangible evidence, they say, regarding the actual Vitamin D requirement for people after early childhood, except for pregnant and nursing mothers, who need extra-liberal allowances of Vitamin D to stand the strain of their own systems, and to make possible the develop-

ment of healthy bones and teeth in their offspring. Cod-liver oil will supply that extra Vitamin D, for the prospective and the nursing mother.

Not many foods are rich in Vitamin D. Egg yolks, butter, cream, are Vitamin D sources which also offer Vitamin A. Salmon and sardines contain Vitamin D. In ordinary cow's milk the concentration of Vitamin D—never very high—depends upon the season of the year and the food the cows are getting. Milk may be "fortified" by giving cows feeds rich in Vitamin D; by enriching the milk with a Vitamin D concentrate; or by irradiating the milk. Such milk usually costs 1 cent a quart more than grade A milk. The added cent buys a potency of 400 Vitamin D units when milk is fortified by the first two methods, 135 units in irradiated milk. Cod-liver oil will generally offer a somewhat larger penny's worth in terms of Vitamin D potency; plus its Vitamin A value.

Evaporated milks similarly fortified are sold without an increase in price.

Exposure to sunshine enables the body to manufacture its own Vitamin D. This "sunshine" vitamin must be present if healthy bones and teeth are to be built



Research in vitamins goes forward almost daily. While vitamins are essential, scientists warn not to expect too much from them. The "anti-infective" Vitamin A, they claim, will not guarantee against infections, nor cure infections once contracted. While resistance to infection may be lowered when there is a serious deficiency of Vitamin A, there is no evidence whatsoever that it is possible to increase resistance to any infection by stuffing in Vitamin A. Most common infection at this season is the cold. Studies in resistance to colds do not yet prove that people who have been getting plenty of Vitamin A will get fewer colds. Nor will heavy doses of Vitamin A cure a cold.

In tooth formation and maintenance of normal tooth structure, Vitamin D plays an important part. But it does not itself take the place of calcium or phosphorus in forming the deposits of calcium phosphate in bones and teeth. Adequate Vitamin D intake will not insure normal tooth structure nor prevent dental caries. Final warning from the experts is that vitamin products should not be taken in advanced stages of disease except under a doctor's control because accompanying conditions make medical advice necessary.

Many claims are made for vitamins which have no solid scientific basis. Vitamins, say those experts who have none to sell, are not cure-alls.

You must have oil in the crankcase if you want your car to run; but the car won't run any better if it is overloaded with oil. A lack of vitamins may keep your body machine from working in good form, but an overdosing is sheer waste.

No corner on vitamin virtues can be claimed by cod-liver oil. Increasingly the trend is toward fortification of cod-liver oil with the liver oils of other fish, many of which are richer in Vitamins A and D. Halibut, bur-

bot, swordfish, tuna, salmon, are a few whose oil is used. Halibut liver oil is well known in its own name. Increasingly cod-liver oil is being turned to animal and poultry feed, and the higher potency oils are being used for human food. U. S. Bureau of Fisheries chemists pioneered in showing possibilities of oils other than cod liver for human and poultry food.

Body oils of several fish—salmon, sardine, tuna—are good sources, too, of Vitamins A and D. American fisheries have great potentialities, still almost unexploited, for the production of fish liver and fish oils. Each year about one million gallons of salmon oil, for example, are produced as cannery waste, in packing the salmon harvest. The housewife should remember, when she opens a can of salmon, that the oil floating on top of the can is rich in Vitamin D. It fits well into most recipes which call for the salmon itself. If she pours the salmon oil down the sink, she may have to buy Vitamin D for her children at drug, not food, prices.

How to select wisely from the host of oils, flavored and unflavored, of capsules, tablets, and irradiated products, is a baffling problem for consumers. Convenience in taking, for many buyers, may justify paying more for one form than another. Preparation and packaging of capsules and tablets naturally add to costs. Relative costs, otherwise, must be figured in relative potency.

Cod-liver oils and other vitamin products differ greatly in vitamin potency. The fish used, the method of manufacture, the policy of the maker, care in the shipper's and druggist's hands, all contribute to the variations. A number of reputable manufacturers are known to maintain their own laboratories to assay vitamin potencies. Laboratory assays are expensive and time consuming. Smaller firms can either get

commercial laboratories to do the assays or else make their products from vitamin concentrates sold to them with potencies guaranteed.

Vitamin potencies are measured in "units"—but these units are not like ounces or grams. A vitamin unit is the vitamin activity of a definite quantity of a standard preparation which has been adopted specifically to serve as a standard in vitamin determinations. Each of the known vitamins has its own units. A Vitamin D unit is entirely different from a Vitamin A unit. For Vitamins A and D we use the United States Pharmacopoeia (U.S.P.) units, which are in agreement with the international units adopted by an international committee on which American scientists serve. The "U.S.P.," compiled by the United States Pharmacopoeial Convention, sets forth formulas, standards of purity, and methods of preparation of common drugs and nonproprietary medicines currently used by physicians. The Convention is a body of outstanding scientists from the ranks of industry, colleges of pharmacy, and Government service.

Each gram of cod-liver oil, under U.S.P. standards, must have a minimum potency of 600 Vitamin A units and 85 Vitamin D units. A great deal of the cod-liver oil on the market has a much higher potency, especially in Vitamin A. The American Medical Association's "New and Nonofficial Remedies" sets minimum potency at 850 Vitamin A units and 85 Vitamin D units per gram.

First rule for buyers is: Know which vitamin or vitamins you need to buy, in addition to vitamins you are getting in your food. On this, a doctor or an expert in nutrition is the best counsellor. Many Vitamin D preparations, while effective in the prevention of rickets, do not have any of the Vitamin A value of cod-liver oil. There is no use paying for comparatively high value in

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The Drama of Wheat

FARMERS do not regard grain marketing as an abstract academic problem. As early as 1857 a group of Wisconsin farmers set about straightening out the tangle of distribution directly by cooperation. Beginning with the local ownership of cooperative storage elevators, cooperation gradually developed to the point where in the marketing season

of 1934-35 a national grain marketing association, made up of regional cooperatives, marketed more than 15 percent of the total commercial wheat crop. This association is now in process of being dissolved.

Grain cooperatives are of two kinds: local cooperatives the majority of which own local elevators; regional cooperatives located at ter-

minal markets and serving local units in outlying territory, some of these have elevators. In 1936-37 local cooperatives had a total membership of nearly 400,000 farmers and did a business of about \$390,000,000. Regional cooperatives did enough additional business to bring the total for all grain co-ops to \$440,000,000 for the year.

**This is the sixth of a series of articles based on the Federal Trade Commission's inquiry into agricultural income. Earlier articles in the series appeared in our May 17, June 14, July 12, August 9, 1937, and January 31, 1938, issues.*

Chapter 2 of "Bread Basket Problems," probed by Federal Trade Commission experts, culls more facts about the makers and handlers of some everyday foods*

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Milling is act III in the drama of wheat. The end of the marketing act finds wheat in the bins of millers. These various types are stored in separate bins, then mixed together in predetermined proportions to secure the kind of flour the miller desires. The wheat mixture is then cleaned, and tempered. Unlike the temperings of steel which are done to make the metal hard, wheat is tempered to make the inside of the kernel soft—but at the same time toughen the outer coat of bran. Then it is ready for actual milling.

Beginning with production, the Federal Trade Commission experts retraced their steps through the channels that wheat must follow to the consumer to find out if there were any narrow places held so tightly by any one corporation or by a group of corporations that tribute could be exacted of all the wheat that passed that way.

Rivulets of wheat flow from over 1,000,000 farmers to converge on a relatively few wheat middlemen.

This vigorous grain cooperative at Kalispel, Montana, with some 400 members does a business of over \$350,000 a year, selling not only wheat, but oats, rye, and barley, and buying farm implements, tires, gasoline, and groceries

Fifteen wheat middlemen in 1934-35 purchased the equivalent of one-fourth the 1934 commercial wheat crop of 332,000,000 bushels of wheat. The three largest wheat middlemen bought quantities of wheat equivalent to 13 percent of the total 1934 commercial wheat crop. Largest single wheat middleman purchased the equivalent of 5 percent of the total wheat crop.

Channels narrow further by the time wheat becomes flour. Thirteen large milling companies milled the equivalent of 47 percent of the total flour produced in the country in 1934-35. Three largest milling companies sold 29 percent of the total flour sold in the United States in 1934-35, and the largest milling company sold 16 percent of the total flour in the same period.

Probing still further into the question of concentration and control, the Federal Trade Commission found there are four types of baking companies: wholesale bakeries; bakeries that sell directly to consumers

through house to house distribution; bakeries owned by chain stores; and the once familiar retail bake shop. Of these, two have major economic importance today: the chain store bakery, and the wholesale bakery.

In 1933 about 8 billion pounds of bread were baked for commercial distribution. Ten of the largest bakeries sold slightly less than 31 out of every hundred of these 8 billion pounds of bread. The 3 largest bakery companies, one chain store bakery, and 2 wholesale bakeries, sold slightly less than one out of every 5 pounds of bread sold in 1933. The 3 largest chain store bakeries sold 8 percent of the total bread sold in 1933. Where once millions of women kneaded dough and baked bread in millions of homes, today doughkneading and breadbaking are gradually moving into larger and larger factories controlled by fewer and fewer companies.

To the question, how did these companies achieve their dominant position in the wheat industry, the Federal Trade Commission replies by giving case histories. Number 1 flour company, the one that milled





Weight of the grain and other things influence milling qualities. Experts in the Bureau of Agricultural Economics are constantly studying ways to improve existing varieties and develop better ones

one out of every 6 barrels of flour milled in 1934 was created by the formation of a company to buy out 5 existing milling companies. Then it spread out over the field by buying other milling companies. In 1929 it bought 7 companies, 4 in Texas and 3 in Oklahoma. Then it purchased a company on the Pacific Coast which had 6 large mills there. Later it bought another company specializing in feed for cattle. Finally in 1933 it bought another general milling company. It now has offices in 71 cities in the United States proper, 2 offices in Hawaii, and a subsidiary operating in Canada.

Sometimes, however, individual companies in an industry, no one of which is dominant, meet and decide to act together to control prices and production. Suspecting just such a development in the flour industry, Congress authorized the Federal Trade Commission in 1924 to investigate. But before the investigation could get going the milling compa-

nies stopped the investigation by an injunction and delayed it until 1931 when the Commission finally had the injunction lifted.

From this investigation the Federal Trade Commission reported some observations. Large milling companies through a trade organization, it appeared, met together to control the milling business. By the use of a black list they kept wholesalers and distributors under their thumbs; through production agreements they restricted the production of flour; by establishing fixed charges for each process in flour milling they controlled and maintained uniform prices. All of these provisions the Commission discovered were incorporated in a Miller's Code of Ethics.

Bread began to concentrate in 1907 when 7 bakeries in St. Louis combined into one baking company, but concentration on a national scale did not appear until 1911 when 21 bakeries in 10 States and the District of Columbia were amalgamated

into a single company. By 1925, 4 companies baked 20 percent of all the bread produced commercially in the United States, and 3 of these 4 companies were so closely affiliated as to constitute a single interest. When, however, an attempt was made to consolidate this control of the 3 largest baking companies into a single company, the Federal Trade Commission stepped in and obtained a court decree blocking it.

Biscuits and crackers by 1921 had so developed under the control of one company that many grocers could not operate in business without handling this cracker company's products. In 1921 it manufactured 55 percent of all the biscuits and crackers sold in the country. The Federal Trade Commission's report on biscuits and crackers, however, was necessarily incomplete, for, reports the Federal Trade Commission, "there were several companies that made serious difficulties about furnishing certain available data called for by the Commission. . . There were only 3 which willfully and contumaciously failed to do so. Among these was a biscuit company which made objections on various grounds, one of which was based on a false representation of the facts. Against this company the Commission through the Department of Justice has brought a mandamus proceeding to compel the production of the information refused."

Rewards from processing wheat appear more golden than the rewards from growing wheat. Gross income of wheat farmers declined 66 percent from 1929 to 1932, from \$841,000,000 to \$283,000,000. Through the efforts of the AAA, farmers were helped considerably after 1932. Benefit payments to wheat farmers in 1933 and 1934 amounted to about \$100,000,000 for each year. Altogether, by 1934 farmers' income from wheat had recov-

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GOVERNORS of two important States have already written cooperative news for 1938. Governor Lehman, in his annual message to the New York State Legislature, discussed the milk problem, so important to New York farmers and New York consumers. He declared: "Consumer cooperatives for direct distribution of milk from producer to consumer should be definitely encouraged."

Said the Governor: "There can be no satisfactory solution of the milk problem, either under State or industry control, if the milk of the producer is not made available to the consumer at a price he can afford to pay. Unjustifiable prices for any product lead to only one result—consumer resistance. Such a situation precipitates a chain of circumstances which inevitably leads to boycott, surplus and ultimate price collapse."

"The State should continue to lend its influence and aid to efforts to discover the correct solution of this problem. Establishment of consumer cooperatives for direct distribution of milk from producer to consumer should be definitely encouraged. These undertakings could be made yardsticks for the measurement of fair and just distribution costs. Their results, supplementing previous inquiries and the present audit of the company books, should provide the practical information on price spread that has heretofore not been available. Properly operated consumer cooperatives can supply milk at better retail prices and yet not impair a fair return to the producer."

Governor La Follette, at about the same time, issued a proclamation making the week of February 14, "Wisconsin Cooperative Week," in order "to take inventory of the important part that cooperation is playing in the economic and social welfare of our people and to emphasize the possibilities of service through cooperative action. . ."

"Today, more than ever," the Governor's proclamation pointed out, "it is recognized that many of our problems must be solved by the people themselves, working together in general educational, commodity marketing, and purchasing groups. If we are to attain the utmost good from cooperation, it is well to study and promulgate the principles of cooperative marketing as well as to acclaim the accomplishments of our various lines of cooperative endeavor in Wisconsin."

"It will be helpful to all to focus attention on this movement, to extend the teaching of its principles, to define its place, and to interpret its functions."

AMERICAN cooperators would make it easier to import the products of British cooperators. In a recent memorandum to the State Department on the proposed reciprocal trade agreement with Great Britain, the Cooperative League of the U. S. A.—central educational and informational agency of consumer cooperatives in both farm and city areas—says:

"The consumers' cooperative movement believes in reciprocal trading and requests that the State Department study the possibilities of reduc-

ing tariffs on products manufactured by the cooperative wholesales of Great Britain, inasmuch as the British cooperative wholesales are the largest individual purchasers of American farm products."

SIGHTSEEING trips to cooperative enterprises, and discussion, are on the agenda for 4 regional conferences on cooperation this winter. Sponsored by the Committee on the Church and Cooperatives of the Industrial Division of the Federal Council of Churches of Christ in America, these "Regional Sightseeing Seminars on Consumers' Cooperation" are being held at Columbus, Ohio, (February 3); Washington, D. C., (February 14-15); Boston and Maynard, Massachusetts, (February 27-28); and a fourth for the Mid-Atlantic States.

FROM consumer cooperative problems to world peace and war, from trade figures to a review of the plays and films of 1937—is the scope of "The People's Year Book" for 1938. Published by England's Cooperative Wholesale Society and the Scottish Cooperative Wholesale Society, this annual volume is like no other book. A summary of the year's events in photographs ranges from coronation crowds, through new cooperative factories in England and co-op stores in Finland, to war's destruction in Shanghai, Guernica, and Madrid. Some of the statistics are astronomical. Membership in the British cooperative movement added up to 7,800,000 in 1936. (Latest reports show an increase to over 8,000,000.) They, and, of course, many non-members bought, during 1936, one billion dollars' worth of foods, household furnishings, clothing, and coal in consumer cooperative stores. (Last year's business is reported to have reached one and one-fourth billion dollars.)

The 1,107 retail societies included

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399 whose membership per society was less than 1,000; and 25 societies who had over 50,000 members each. Interest on members' share capital—always paid at a low fixed rate—came to 23½ million dollars. Cooperative society members finished the year's business with 113 million dollars available for patronage refunds and additions to reserves. Most of this sum members voted themselves as patronage refunds, since reserves are already ample in the old established British cooperative societies.

Employed by the British cooperatives in 1936 were 319,000 men and women. Their wages for the year came to 197 million dollars.

"Cooperation Overseas" is surveyed in brief discussions which cover 50 lands from Algeria and the Argentine to the United States, the U. S. S. R., and Yugoslavia. With their families, that would mean three or four times that number personally affected by consumer cooperative enterprise.

Another section is devoted to "Labor in 1937." The British Trades Union Congress and the Cooperative Congress have ratified a joint agreement urging the establishment of "Trade Boards" (minimum wage boards) in retail distribution. The cooperatives are now, it is agreed, paying higher than prevailing wages in retail employment.

COLLEGE students took time out from their Christmas holidays to consider economic and social questions. Consumer cooperation was discussed at the annual American Student Union Conference on Vassar's campus at Poughkeepsie, New York. Student delegates heard the assistant secretary of the Eastern Cooperative League stress employment in cooperatives as an expanding vocation for college men and women, "today when other avenues of employment are so generally blocked."

At Oxford, Ohio, Miami University and Western College were hosts to the National Assembly of Student Christian Associations. To these conferees, the secretary of the Cooperative League of the U. S. A., proposed eating, housing, and other types of cooperatives to reduce the high cost of college education.

FIVE student cooperatives on the Wisconsin University campus at Madison have formed a University Cooperative Council. Typical of reasons why co-ops federate, is the five-fold program of the Council. It declares its purposes to be:

"(1) Pool ideas, information, experience; (2) buy collectively where desirable; (3) form a central educational agency; (4) promote fellowship among the campus co-ops; (5) further the cooperative movement."

Any club on the campus is eligible to membership in the Council, if it is organized along general cooperative lines. Present members of the Council are the Congo (Congregational) Cooperative Eating Club, Three Squares (Methodist) Club, Catholic Cooperative Eating Club, Wayland (Baptist) Club, and Delta Theta Sigma (men's agricultural fraternity). Managers of the clubs form a buying committee.

TWENTY percent was the dividend declared by the Central Cooperative Association on commissions paid during 1937 for the sale of livestock for farmers of Minnesota, Wisconsin, North and South Dakota, Montana, and Iowa. The Association sold 22¼ million dollars' worth of livestock last year. Animals shipped in are sold on a per capita commission basis—70 cents, for example, per head of cattle. Dividends are paid from the savings made on commissions . . . The Association numbers about 20,000 individual members, and 575 member-associations; they recently an-

nounced a 1937 dividend of \$73,000 which brings reported savings to a total of \$1,680,000 in 17 years.

COOPERATIVE stores at Greenbelt, Maryland, have no competitors in the Greenbelt model housing development itself. But groceries, butcher shops, and fruit and vegetable markets in Washington, D. C., and all along the road which most Greenbelters travel daily between home and the Capital, offer genuine competition.

Not uncritical about its cooperative stores is the Greenbelt Citizens' Advisory Committee on Cooperatives. One of its first tasks was a price-and-quality comparison of grocery products sold by the Greenbelt co-op grocery and by nearby stores. Four women members of the committee priced identical and similar items, and made suggestions as to type and price of merchandise they regarded as desirable for Greenbelt's store. Cans of milk, peas, peaches, and string beans were opened at a comparison demonstration, tasted, tested, compared.

The Committee summarized its report on the experiment as follows:

"1. Labels do not give much information.

"2. Price is *not* an indication of quality or value.

"3. Brands are *not* an indication of quality or value.

"4. Size of can does not determine actual food content.

"5. Some sizes in cans vary so imperceptibly as to be mistaken one for the other but actually contain one or two ounces less in content.

"6. Some merchandise not highly publicized may be very good in quality.

"7. Merchandise bought in bulk runs cheaper than packaged merchandise—e. g., soaps, shortening, etc."



More About Rents

Negro and native white families in the South
report on their expenditures for space to live*

CREAM PUFFS and cabbages, you'll grant, are two quite different things, and a family that made its meal on one would not only be more out of pocket than the family that dined on the other, but would get a different kind of nourishment. Comparing one family's food expendi-

**This is the second of a series of articles on the findings of the Consumer Purchases Study. The first article appeared in the January 17, 1938, issue.*

tures with another's, means little without some measure of the quality of nourishment received.

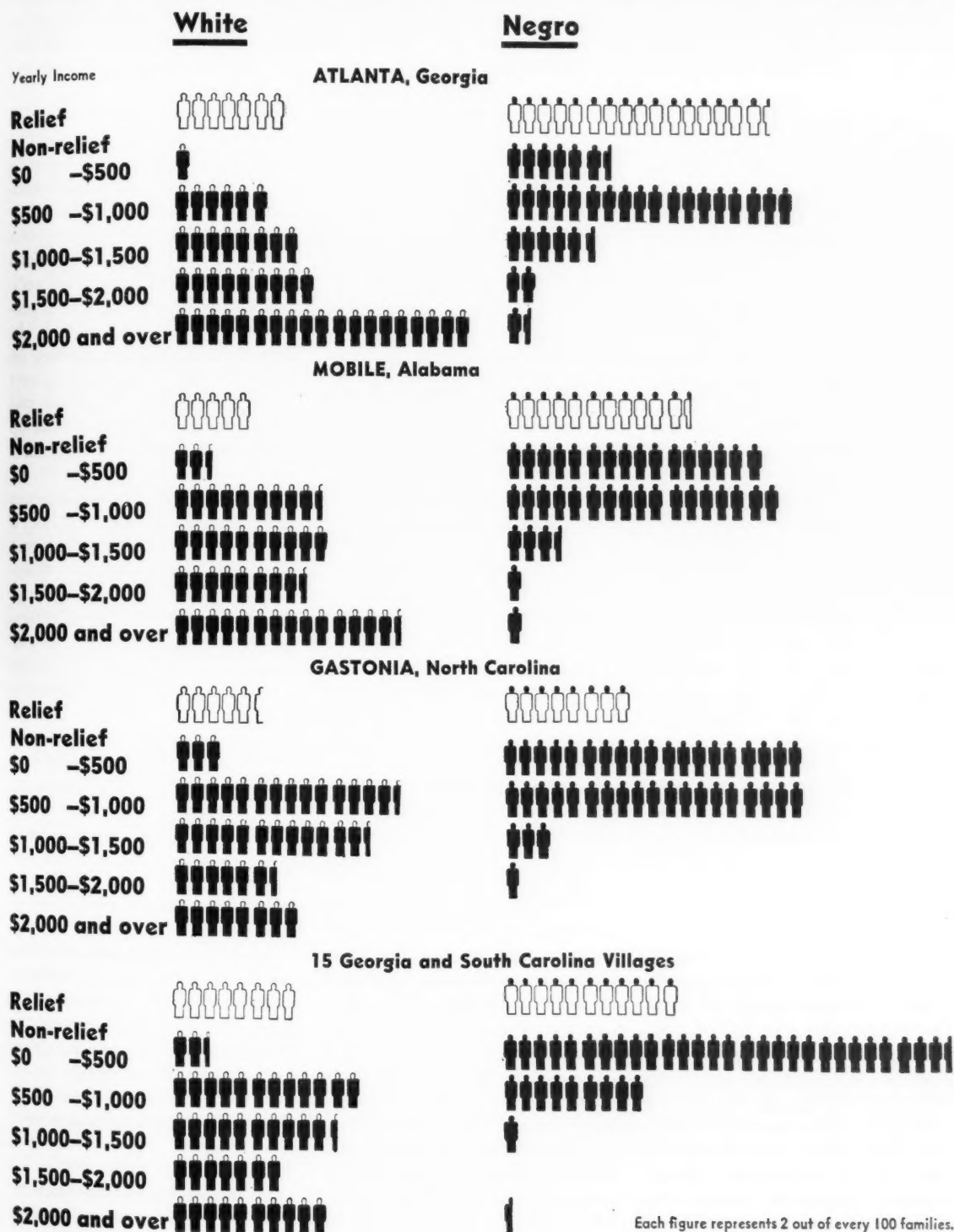
Shelter costs are even more tricky things to compare. We have no yardstick of value received for rent paid, such as the nutritionists have provided for foods. A rent of \$15 a month in some spots may provide a bathroom; in another, not even running water in the house. Such a sum may buy the right to live in a

shack, or a room. Housing costs in themselves tell nothing about the quality of the living space provided.

A month ago we lined up the rents that native white families in New England paid in 1935-1936. This time we marshal the facts for white and negro families in the South. First warning to proud boasters of the "land of low rents," wherever it may be, is to beware of using such figures as these to prove that it's

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Southern Native White and Negro Families Had These Incomes in 1935-1936



cheaper to live here than to live there. All these figures show is actual out-of-pocket expenditures for some kind of shelter, whatever it bought in space, light, and physical comforts.

Spotlighted in this part of the Consumer Purchases Study is that area bounded on the north by North Carolina, on the west by Mississippi, on the south by Georgia, and on the east by the Atlantic Ocean. Here are more people to the square mile than in other parts of the South. A greater variety in the size of communities shows here. There are fewer sparsely populated areas in the Southeast than in other southern regions.

Almost 51,000 families, all native born, were asked to tell their monthly rental bills to the scouts from survey headquarters. Some 34,000 were white families; 17,000 belonged to the negro race. As in New England, big and little places were covered: The largest was Atlanta, two-thirds of whose population of over 270,000 is made up of white, one-third of negro, families. At the other extreme were 33 North and South Carolina, Georgia, and Mississippi villages. In the Georgia and South Carolina villages, some 62 percent of the people are white and 38 percent negro. In the North Carolina and Mississippi villages the white population is only slightly larger than the negro.

Between these big and little places, the rent-data gatherers covered families in Mobile, Alabama, (population, 68,000; 64 percent white, 36 percent negro); Columbia, South Carolina, (population, 52,000; 62 percent white, 38 percent negro); Gastonia, North Carolina, (population, 17,000; 81 percent white, 19 percent negro); Albany, Georgia, (population, 15,000; almost evenly divided between white and negro); Sumter, South Carolina, (population, 12,000; with only slightly more white people than

negro); and Griffin, Georgia, (population, 10,000; two-thirds white; one-third negro).

INCOME sets an outside limit on the money that a family can use for renting a place in which to live. Throughout these Southern communities, big and little, the level of incomes of native white families was considerably higher than that of negro families.

Fewer white families than negro had to depend on relief for their living. In none of the communities were there less than 15 out of every 100 negro families in this relief group. In Atlanta one-third of the negro families depended on relief. Only in the 15 Georgia and South Carolina villages were as many as 16 native white families out of every 100 recipients of relief, and in two communities the number was as low as 8.

Few native white families not on relief had incomes of less than \$500. In all communities, except in Gastonia, the number was not over 5 out of every 100 families. In Gastonia, 6 out of every 100 had to live on such meager incomes. On the other hand, except in Atlanta, from one-quarter to more than a half of the negro families had incomes less than \$500 a year. In Atlanta there were 13 out of every 100 in this group.

An imaginary line drawn between the families which were below the \$1,000 income level or on relief and the families above the \$1,000 income level would find them grouped like this: From about a quarter to nearly one-half of the native white families, either on relief or with incomes under the \$1,000 line; from 82 to 97 out of every 100 negro families, either on relief or with incomes less than \$1,000.

Negro families fortunate enough to have an income of \$1,500 or more were few in these Southern communities, while a third or more of the

native white families reached this income or topped it. In Atlanta 7 out of every 100 negro families had an income of \$1,500 or better, but in no other community studied were there more than 5.

Now for a look at the rent paid. We skip over the rent figures paid by families with incomes of less than \$500. Frequently when family budgets are as meager as that, the family has to piece out its rent money with help from other sources. Sometimes the amounts paid seem, by all ordinary rules of budgeting, out of proportion with the total income. In some instances, the families drew on savings or borrowed funds to meet their rental bills. A complete picture of how such families make up their rent money is not at hand.

IN THE \$500 to \$1,000 income group, rent averaged all the way from a low of \$5 per month, paid by negro families in 15 Georgia and South Carolina villages, to a high of \$14.40 per month paid by native white families in Atlanta. Negro families with incomes in this bracket consistently paid less than did the white families. Both in the case of white and negro families the amounts paid for rent in general grew smaller as the total population of the locality decreased.

How much of the family income rent absorbed, varied almost as much as did the actual cash outlays. Native white families with incomes of from \$500 to \$1,000 spent from 12 to 23 percent of their yearly income. A 12 percent allowance for rent meant, for such families in Gastonia, a rental bill of \$7.40 each month. Atlanta white families, paying \$14.40 a month, were the group for whom rent represented 23 percent of income. In the case of the negro families, rent took from 10 to 19 percent of income.

AT THE next higher level of income, those receiving from \$1,000 up

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What Rent Cost Families With Incomes at Three Levels

White

Rent Cost These Dollars Each Month	Yearly Incomes in 1935-1936	Rent Took This Percentage of Family Income Each Month
↓	↓	↓
	Atlanta, Georgia	
\$14.40	\$ 500-\$1,000	23
18.80	1,000- 1,500	18
25.00	1,500- 2,000	17
	Mobile, Alabama	
\$13.40	\$ 500-\$1,000	21
16.70	1,000- 1,500	17
20.90	1,500- 2,000	15
	Columbia, S. Carolina	
\$12.60	\$ 500-\$1,000	20
18.10	1,000- 1,500	18
26.10	1,500- 2,000	18
	Gastonia, N. Carolina	
\$ 7.40	\$ 500-\$1,000	12
9.70	1,000- 1,500	10
14.40	1,500- 2,000	10
	Albany, Georgia	
\$11.80	\$ 500-\$1,000	19
16.20	1,000- 1,500	16
21.70	1,500- 2,000	15
	Sumter, S. Carolina	
\$10.82	\$ 500-\$1,000	17
16.36	1,000- 1,500	16
20.85	1,500- 2,000	15
	Griffin, Georgia	
\$ 8.79	\$ 500-\$1,000	14
11.76	1,000- 1,500	11
15.83	1,500- 2,000	11
	18 N. Car. and Mississippi Villages	
\$ 9.54	\$ 500-\$1,000	15
14.10	1,000- 1,500	14
18.23	1,500- 2,000	13
	15 Georgia and S. Car. Villages	
\$ 7.66	\$ 500-\$1,000	12
11.16	1,000- 1,500	11
13.28	1,500- 2,000	9

Negro

Rent Cost These Dollars Each Month	Yearly Incomes in 1935-1936	Rent Took This Percentage of Family Income Each Month
↓	↓	↓
	Atlanta, Georgia	
\$11.10	\$ 500-\$1,000	19
14.50	1,000- 1,500	14
16.90	1,500- 2,000	12
	Mobile, Alabama	
\$ 8.50	\$ 500-\$1,000	15
10.60	1,000- 1,500	11
11.80	1,500- 2,000	8
	Columbia, S. Carolina	
\$ 9.60	\$ 500-\$1,000	17
11.70	1,000- 1,500	12
17.20	1,500- 2,000	12
	Gastonia, N. Carolina	
\$ 6.90	\$ 500-\$1,000	13
10.60	1,000- 1,500	13
13.50	1,500- 2,000	10
	Albany, Georgia	
\$ 6.80	\$ 500-\$1,000	13
8.60	1,000- 1,500	8
11.10	1,500- 2,000	7
	Sumter, S. Carolina	
\$ 6.50	\$ 500-\$1,000	12
9.40	1,000- 1,500	10
20.00	1,500- 2,000	14
	Griffin, Georgia	
\$ 7.91	\$ 500-\$1,000	14
9.62	1,000- 1,500	10
12.00	1,500- 2,000	9
	18 N. Car. and Mississippi Villages	
\$ 5.90	\$ 500-\$1,000	11
8.04	1,000- 1,500	8
14.20	1,500- 2,000	10
	15 Georgia and S. Car. Villages	
\$ 5.26	\$ 500-\$1,000	10
7.62	1,000- 1,500	8
....	1,500- 2,000	..

to but not including \$1,500, monthly rent payments averaged from a low of \$8 for the negro families in the villages to a maximum of \$18.80, the average paid by native white families in Atlanta. In most places, the rents paid by negro families were from \$2 to \$6 less each month than those paid by native white families. Expenditures for this item in living did not vary as closely with the size of the community as in the case of the \$500 to \$1,000 income families.

Rent absorbed a slightly smaller proportion of the family purse for this group. For this one item in the cost of living native white families used from 10 to 18 percent of their income; negro families, from 8 to 15 percent.

STEPPING UP, now, to the families in slightly easier circumstances, those with incomes of from \$1,500 to \$2,000. Rents also increase in amount. Bottom figure for native

white families in this group was the average rental paid by those in 15 Georgia and South Carolina villages, \$13 a month. Similar Gastonia families averaged \$14.40 a month. From there, average rents mount to a top of \$26.10 in Columbia. Lowest rent for the negro families averaged \$12 in Griffin; top was \$20, averaged by those in Sumter—just \$1 less than the average of white families in this fairly small South Carolina town.

[Concluded on page 17]



WHAT is the difference between commercial salad dressing and mayonnaise?

—Indiana consumer.

There's no neat answer to this question that will serve as a practical guide in choosing which you will buy from your grocer. Officially, a product labeled as "mayonnaise" must have edible vegetable oil and egg yolk or whole egg in it. That's a rule of the Food and Drug Administration. How much egg, the rule doesn't say, but it is very definite about the minimum amount of oil allowable: At least 50 percent of the finished product must be oil. Other flavorings may be added or not, as the manufacturer chooses: such things as vinegar and lemon juice, salt and spices, sugar or dextrose.

To Food and Drug officials, the important point about mayonnaise is its oil content. When it came to fixing the proportion at 50 percent, they had to follow fairly closely trade custom because housewife customs in mayonnaise-making are fairly indefinite. Any cook who makes jelly can tell right off the bat what proportions of fruit to sugar she uses. It's not so easy to find the cook who knows the proportions of oil to total volume, or oil to egg volume, in mayonnaise-making.

While minimum oil content for mayonnaise is set at 50 percent, there

is no rule against putting lots more oil than that in a product. It's up to the manufacturer to tell on the label, if he wishes to, when his product exceeds minimum requirements. It's his prerogative, too, to decide whether you should or should not be let in on knowing what other things—and how much of them—he puts in his mayonnaise. There's no law requiring him to tell his customers anything about his formula—with one exception: If he puts one ingredient on the label, Food and Drug officials rule that he must name all. Otherwise his label might be misleading.

What kind of oil goes into mayonnaise is the manufacturer's choice also, except that it must be an edible vegetable oil by the rules of Food and Drug. Most commonly used is cottonseed oil. Some products are made with olive oil. A manufacturer may shift from one type of oil to another, if relative market prices are important enough to weigh against the inadvisability of changing formulas.

On salad dressings, official rules are silent. No legal definitions exist, primarily because Food and Drug officials hold that salad dressing is a generic term which refers to any kind of a dressing that anyone might reasonably be expected to put on a salad. It covers a multitude of concoctions made in a multitude of ways. To define minimum standards

for such a food would require giving special meaning to a word that doesn't have one.

Some salad dressings on the market may have as high an oil content as mayonnaise must have. Some may be as rich in egg. As far as legal requirements go, neither oil nor egg have to be in the product. Since egg yolk need not be used as the emulsifying agent, starch or some other moisture-absorbing ingredient is frequently used. As there is no regulation of the amount of oil, a salad dressing usually has a lower oil content than mayonnaise.

Absence of official rules for salad dressing ingredients, mayonnaise makers sometimes claim, gives advantage to their competitors, because they can turn out a cheaper product. This is how one trade authority puts the problem:

"Salad dressing has to a large extent displaced the volume of mayonnaise. The recent survey by the Department of Commerce shows that the relative proportion of salad dressing today is 6 to 4 as against 6 to 4 in favor of mayonnaise not more than 5 years ago. I am sure that it will interest you to know how this change came about in the eating habits of the American consumer.

"Inasmuch as there was no standard for salad dressing, extensive campaigns for the sale of salad dressing were very successful due to the fact that the price of salad dressing is less than the price of mayonnaise. This latter is possible by virtue of the fact that there is a lower oil content in salad dressing. For example, it has been customary to manufacture mayonnaise with as high an oil content as 75 percent and in no case less than 50 percent, whereas in the sales of salad dressing the product rarely has more than 45 percent oil content and very frequently has as low as 2 and 1 percent. Such being the case, the consumer is clearly being mulcted."

In this statement, it will be noted, the term "salad dressing" is used in a restricted sense, as a dressing which in appearance, and often in other characteristics, closely resembles true mayonnaise dressing.

Mulcting the consumer, Food and Drug officials hold, can only be proved if consumers expect the two types of dressing to have somewhat the same amount of oil in them. Officials haven't been able to prove, by their sampling of consumer opinion, that this is so. But they always welcome proof that they are wrong. Any consumer who feels that food and drug regulations stop short of fair and adequate protection by failing to set minimum standards for salad dressing, can write so to that Administration.

Why do mayonnaise and salad dressings go rancid?

Rancidity is due to the oxidation of the oil in the dressing. The fresher the oil used in making the product, the less chance for future rancidity. Manufacturers bottle their dressings as soon as possible after they are made. Oil in mayonnaise will oxidize when exposed to the air. A little oxidized mayonnaise mixed with mayonnaise that is still sweet hastens the spoilage of the whole batch. You have probably noticed the film that forms on a bowl of mayonnaise that stands for some time. This film is the oxidized oil which makes for rancidity. Long-time sweetness of mayonnaise depends primarily on quality of the ingredients used in making it, but to preserve this sweetness, remember to keep the cover on your dressing jar. Only take from the container the amount you intend to use at the time.

OUR class would like to know if there is any law against merchants selling bad eggs. What can

be done if merchants refuse to make good for bad eggs sold?"

—Detroit consumer.

To question No. 1.

It depends on the laws of the city and State in which you live.

Under the Federal Food and Drugs Act, eggs which are filthy, putrid or decomposed in whole or in part are adulterated and liable to seizure if shipped in interstate commerce. "The following are regarded as inedible eggs: black rots, white rots, mixed rots (addled eggs), sour eggs, eggs with green whites, eggs with stuck yolks, moldy eggs, eggs showing blood rings, eggs containing embryo chicks and any other eggs which are filthy, decomposed or putrid."

Most States have food laws which apply to eggs. Many cities have specific regulations on eggs.

Eggs may be fresh when a merchant buys them but they may spoil in a store. Eggs are a perishable product. In order to keep their quality, they must be kept in a cool place. "Strictly fresh" eggs in a window which is warmed by the sun will not stay strictly fresh very long. Eggs kept under proper conditions for five months might taste "fresher" than those which have been sunned for two days.

(2) Merchants who refuse to exchange good eggs for bad are few. Refusing to do so would undoubtedly mean a loss of customers. If a merchant does object to making good for a sale of bad products, first find out what your city and State laws require in the sale of eggs. If there are any legal requirements which the merchant has failed to live up to, call his attention to the law. The selling of bad eggs is usually of interest to the city health department, and to the Better Business Bureau of any community, which can sometimes bring pressure to bear on the recalcitrant merchant.

Every year more and more merchants are selling Government graded eggs which are packaged in sealed cartons. The seal gives the grade and the date when the eggs were graded. According to Government experts, if eggs are properly handled, they should hold their grade for at least five days.

For further information on eggs write to the Superintendent of Documents, Washington, D. C., for our bulletin, CONSUMERS LOOK AT EGGS. The price is 10 cents.

MORE ABOUT RENTS

[Concluded from page 15]

Approximately the same proportion of family income was paid for rent by families at this economic level as by the families with incomes of from \$1,000 to \$1,500; 10 to 18 percent, in the case of the white families; 8 to 14 percent, for the negroes.

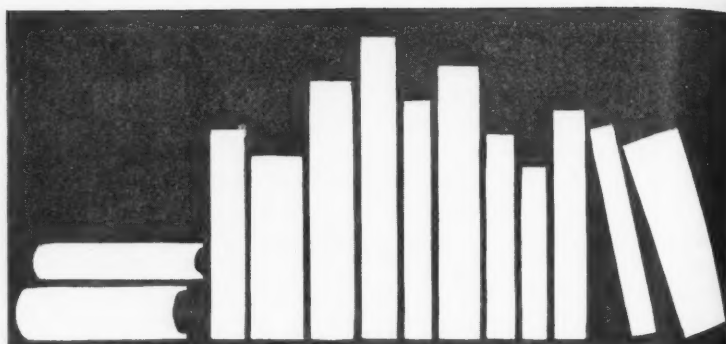
Consistently, throughout this study, families increase their expenditures for space in which to live as their income grows. Within each income group, wide differences in rental expenditures show up, depending on the kind and size of community. Rent for families in villages appears to be almost without exception a smaller cost than for families in larger places. As a usual thing, compared with other localities studied, rent for families of all income levels is highest in Atlanta.

These things hold true for native white and negro families alike. But the chiefs of the survey found that while negro families in the South set aside proportionately less of their incomes for rents than native white families, this was not true of negro families in northern cities. There the rental bills of negro families were lower than those of the white families, but the percentage of income which was required to meet the bill was higher than that of the white rent payers.

FABRICS AND DESIGNS FOR CHILDREN'S CLOTHING, by Clarice L. Scott and Margaret Smith, U. S. Bureau of Home Economics. *Farmers' Bulletin No. 1778*. 1937, pp. 23, illus. Address: Superintendent of Documents, Washington, D. C. 5 cents. This pamphlet supersedes a series of leaflets dealing with children's clothing previously issued by the Bureau of Home Economics. Contains general sections on fabrics, garment designs, workmanship, and labels on fabrics and ready-made garments. Gives specific suggestions regarding design and construction features for slips and sleeping garments for infants, rompers for creeping babies, suits and dresses for older children, summer outfits, and winter playsuits.

HOMES FOR WORKERS, by Housing Division of Federal Emergency Administration of Public Works. *Housing Division Bulletin No. 3*, 1937, pp. 87, illus. Address: Federal Housing Administration, Washington, D. C. Free to librarians and persons having a special interest in housing problems. Discusses such questions as: Present status of housing programs, effects of bad housing, possible contributions of local, State and Federal governments to the improvement of housing conditions, and the future of private and Government housing. Annotated bibliography.

TRADE PRACTICE RULES FOR THE RAYON INDUSTRY, promulgated by the Federal Trade Commission, Oct. 26, 1937, pp. 8. Address: Federal Trade Commission, Washington, D. C. Free. The Rayon Trade Practice Rules mark an important advance in fiber identification. Purpose of the rules is "to provide for proper fiber identification and disclosure of rayon and



Consumers' BOOKSHELF

rayon products and for the prevention of misinformation, misrepresentation and deception, in the interest of fair competition and consumer protection."

FEDERAL TRADE COMMISSION PROCEDURE. 1936, pp. 4. Address: Special Board of Investigation, Federal Trade Commission, Washington, D. C. Free. This leaflet discusses the powers and duties of the Commission. Describes in some detail the procedures followed by the Special Board of Investigation in the regulation of advertising.

TEXTILES, GENERAL SPECIFICATIONS, TEST METHODS. Federal Specification CCC-T-191a. Apr. 1937, pp. 21. Address: Superintendent of Documents, Washington, D. C. 5¢. This publication "gives the general physical and chemical methods for testing textiles for conformance with the requirements of Federal Specifications." Of interest to teachers of home economics and other technically trained people.

ANALYSIS OF UNITED STATES AND STATE STANDARDS FOR FRESH FRUITS AND VEGETABLES AND LEGAL STANDARDS FOR DAIRY PROD-

UCTS, by Consumers' Project, Department of Labor. 1937. Address: Superintendent of Documents, Washington, D. C. 25 cents. Contains 25 charts for use by graders, buyers for institutions and cooperatives, and others interested in standards. Gives detailed analyses of the condition, quality and size requirements for both Federal and State standards for 117 types of fresh fruits and vegetables, and nuts; and 10 types of dairy products.

METHODS AND EQUIPMENT FOR HOME LAUNDERING, by Ruth O'Brien and Helen S. Holbrook, U. S. Bureau of Home Economics. *Farmers' Bulletin No. 1497*. 1926, revised 1937, pp. 39, illus. Address: Superintendent of Documents, Washington, D. C. 5¢. Section one contains a discussion of general principles of construction, operation, and selection for hand and power washing equipment, laundry stoves, boilers, and ironing equipment. The second section on laundering methods gives directions for washing different kinds of fabrics, and handling such special laundry work as lace curtains, pillows, and infected clothing. Soaps and other laundry supplies are considered.

CONSUMERS' GUIDE

VITAMINS IN FISH OILS

[Concluded from page 6]

the vitamin you do not need. Some preparations offer what is known as a "shotgun prescription"—5 or 6 different vitamins in one capsule or tablet. It is, of course, worth paying more for all these vitamins only if you know you want all of them.

Before you buy, read the labels on vitamin preparations. Note carefully their Vitamin A and Vitamin D values. Some cod-liver oil labels give vitamin content per teaspoonful; generally they give Vitamin A and Vitamin D strength per gram. But the contents of the bottle are stated in ounces—measures of liquid volume—while grams are a measure of weight. Comparing the vitamin content of different preparations is an involved problem in arithmetic. The number of buyers who can, or wish to, convert themselves into calculating machines when they go to market for such products, is few. For what it's worth, we give here a way to do the necessary computations.

To translate potencies per gram of cod-liver oil into potencies per ounce, multiply by 27.6. To get the total number of units of each vitamin in the bottle, multiply the potency per ounce thus obtained, by the number of ounces in the bottle. To know the number of units of each vitamin in a given dose of oil, remember that a therapeutic teaspoonful holds 3.67 grams of cod-liver oil.

For the concentrates, multiply the strength per tablet or per capsule—but not the strength per gram, which is greater—by the number of capsules or tablets in the box. Do not be confused by comparisons stated in terms of U.S.P. "standard" cod-liver oil, since much of the oil on the market is above the U.S.P. minimum. If you wish to make your own comparisons between competing products, use the potencies actually stated on bottles of cod-liver oil.

As a single example, take a cod-liver oil selling at \$1 a pint, and assaying 2,000 units of Vitamin A and 125 units of Vitamin D per gram. Translated into values per ounce, this would be 55,200 units of A and 3,450 units of D to each ounce of the oil. The 16 ounces of the bottle would have a total potency of 883,200 A units and 55,200 D units. This would be equivalent to 8,832 units of Vitamin A and 552 units of Vitamin D for each penny's expenditure. The same calculations for another product would indicate whether—if its label's claims are accurate—it would be a better buy.

Rules for care of vitamin preparations, once you have bought them, are simple but important. Keep cod-liver oil in a cool, dry, dark place. Vitamin A is easily destroyed when warmed or exposed to the air or light. Vitamin D is not readily destroyed. But the two come together in cod-liver oil. Cod-liver oil is best kept at ice box temperature; capsules and tablets with Vitamin A content likewise. Open the cod-liver oil bottle only as long as necessary; at other times see that it is tightly closed.

To test the growing volume of vitamin products, Food and Drug Administration set up, less than 3 years ago, its Vitamin Division. Since we import most of the cod-liver oil used in this country every year as human food and for animal and poultry feeding, the new Division has devoted chief attention to imports. Last year samples from 880,000 gallons of cod-liver oil imports were tested. About a third of these shipments were found below the U.S.P. minimum requirement in Vitamin D, and were turned back from American ports. More recent assays show an improvement in standards of cod-liver oil imports.

Domestic vitamin products in interstate commerce are also assayed by the Food and Drug Administra-

tion's chemists. Tests last year on samples from 34 shipments showed that 24 of these products did not have the vitamin potencies their labels claimed, or fell below U.S.P. standards. A number were otherwise misbranded, or adulterated. These shipments were removed from the market.

Our thanks are due to E. R. Squibb and Sons for the illustration on page 3.

THE DRAMA OF WHEAT

[Concluded from page 9]

ered to about 60 percent of the 1929 figure compared with the 34 percent level it had fallen to in 1932.

But compare these figures with the average annual profits of 11 flour milling companies. For the 6 years from 1929 through 1934 they earned an average of \$131,000,000 a year, an average return on the investment in their business of 8.25 percent. In the very worst year of the depression the percent of profits on their investment in their business did not go below 5 percent and in the best year it went above 12 percent.

Sixteen middlemen by the same measure did well too. Their annual average profit was \$7,000,000, an average of 10.6 percent on their investment in their business.

Three cracker companies averaged 15 percent profits on their investments in their business during the same 6 years. In their worst year they earned 9 percent, and in their best year they earned 21 percent.

Four wholesale baking companies average profits of 9 percent on the investment in their business for the same 6 years, in their best year this went up to 16 percent, in the worst year it declined to 5 percent.

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